

Item	Qty -147	Qty -147B	Part Number	Description
1	X		D212-664-147	CROSSTUBE ASSEMBLY (205/212/412 LOW FWD)
2		X	D212-664-147B	CROSSTUBE ASSEMBLY (214 LOW FWD)
3	1	1	D6019-128	CROSSTUBE
4	2		D2893-1	SUPPORT
5	4	4	D3595-063-450	RUBBER CUSHION
6	2	2	D3659-1	CUFF
7		2	D5017-1	SUPPORT
8	4	4	MS21920-25	CLAMP (OR MS21920-26)
9	44	44	CR3212-4-06	RIVET (OR M7885/3-4-06)
10	A/R	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2
11	A/R	A/R	SIKAFLEX-241/-291	SEALANT (OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6019-128
FINISHED LENGTH = 126.528±0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: D212-664-147/-147B = 24.2 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

MACHINING

- 10) WHEN MACHINING TAPER, RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.

BENDING

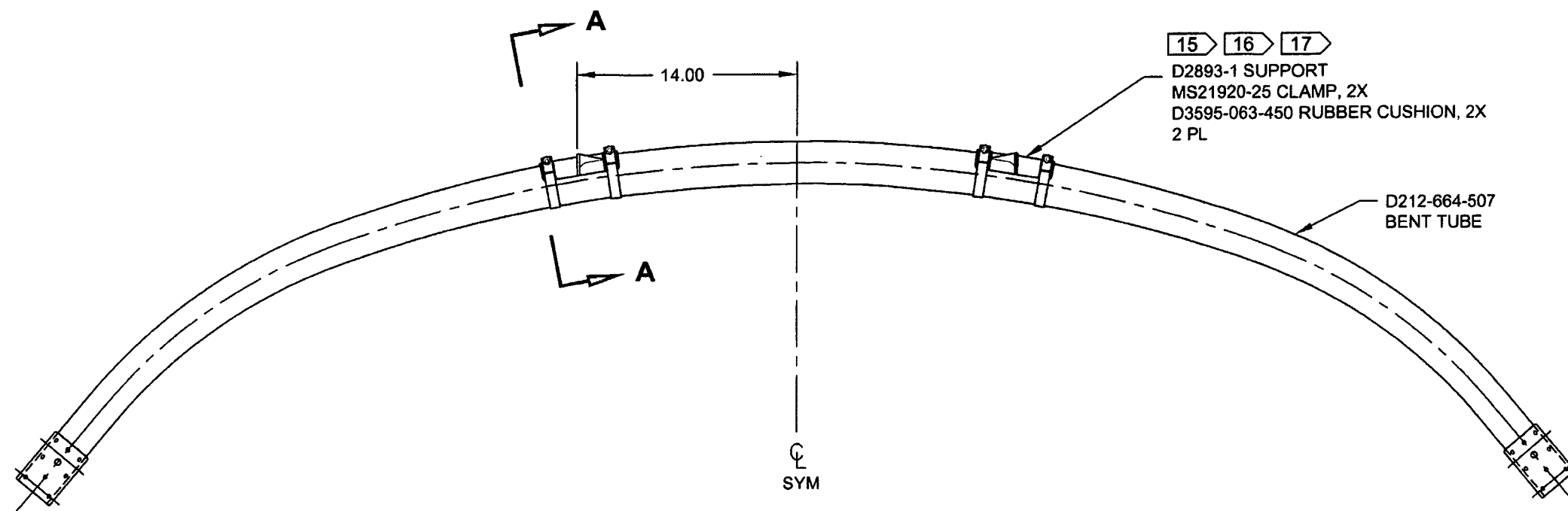
- 11) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D., EXCEPT UP TO 10% IS ALLOWED IN AREA NOTED.
- 12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.

ASSEMBLY

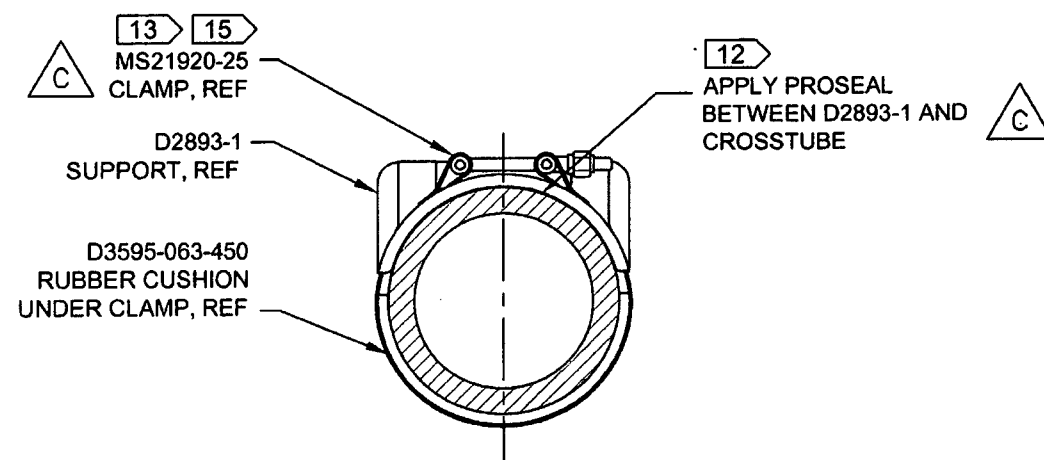
- 13) INSTALL D3659-1 CUFF AFTER CHEMICAL CONVERSION COAT BUT BEFORE PAINT, WITH A LAYER OF SIKAFLEX-241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT BETWEEN CUFF AND CROSSTUBE. SEAL EDGE OF CUFF TO ENSURE NO GAPS.
- 14) TOUCH-UP HOLES WITH CHEMICAL CONVERSION COAT.
- 15) INSTALL D2893-1 / D5017-1 SUPPORT : ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 16) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE ON TOP SIDE OF CROSSTUBE.
- 17) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

RELEASED
2014-05-26

C	D5017-1 WAS D2893-1 (-147B), PROSEAL WAS MAGNOBOND, ADD SHEET 3, NOTE 16: ADD 72HR CURE & RETORQUE, CLAMPS REVERSED TO PREVENT CHAFING (ZN B7-2, B7-3), INCORP DEO B-1	CP	14.04.01
B	REVISE GENERAL NOTES/PART LIST; UPDATE TO CURRENT STANDARDS; ADD -147B (ZN C4-2, D4-2)	RF	09.09.30
A	NEW ISSUE	CP	07.07.07
REV.	DESCRIPTION	BY	DATE
DESIGN	90	DART AEROSPACE LTD	
DRAWN	90	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DW	DRAWING NO.	REV. C
MFG. APPR.	Red	D212-664-147	SHEET 1 OF 5
APPROVED	MA	TITLE	SCALE
DE APPR.	14	CROSSTUBE (205/212/412 LOW FWD)	NTS
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D212-664-147
ASSEMBLY DETAIL

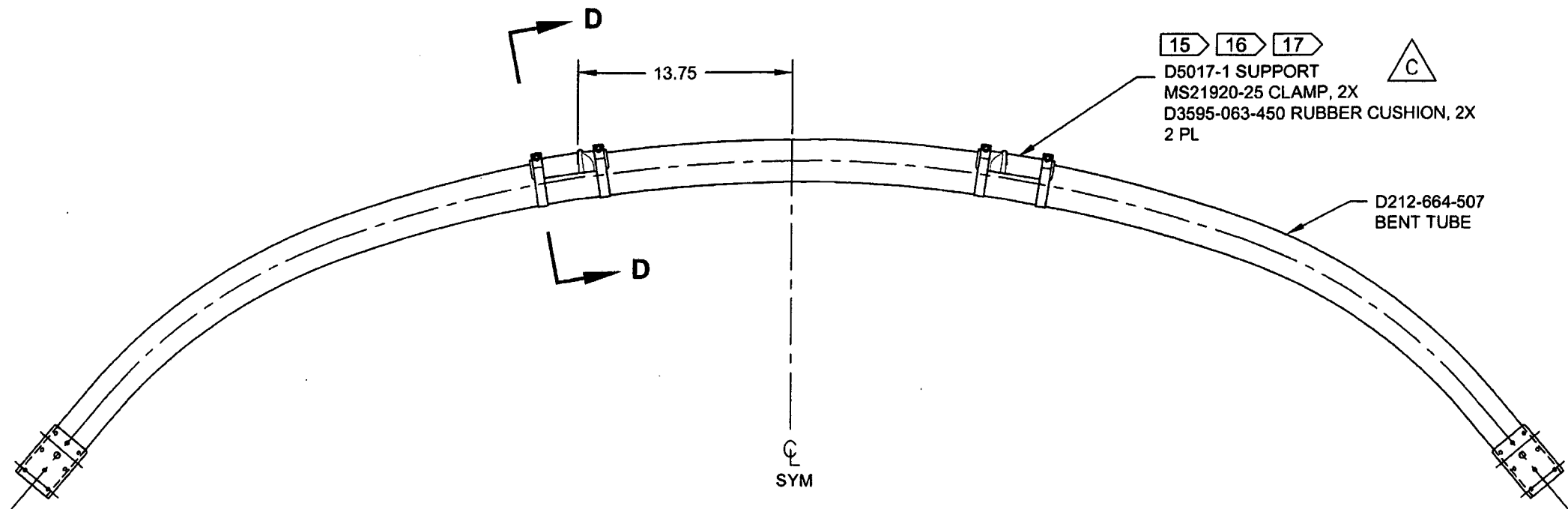


SECTION A-A
SCALE 4X

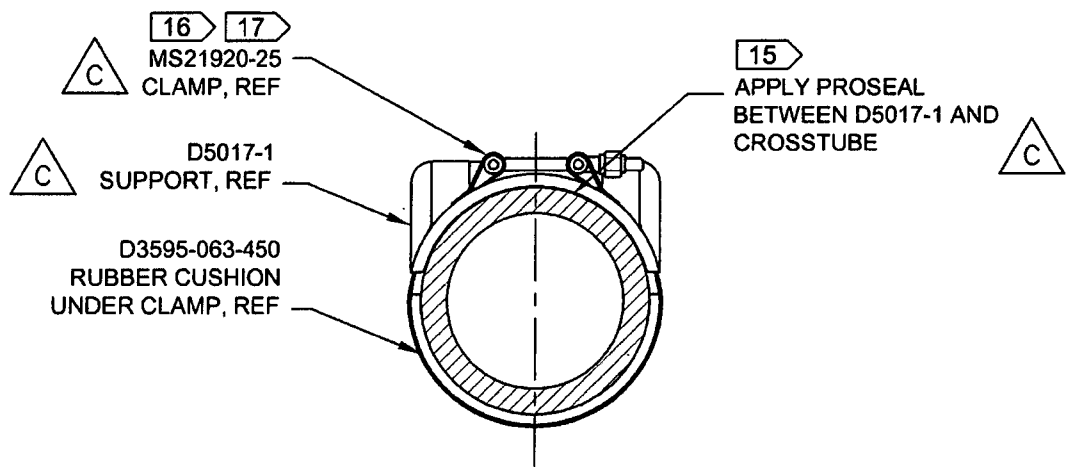
RELEASED
2014-05-26
MD

DESIGN	90	DART AEROSPACE LTD	
DRAWN	90	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DLW	DRAWING NO.	REV. C
MFG. APPR.		D212-664-147	SHEET 2 OF 5
APPROVED	IMJ	TITLE	SCALE
DE APPR.		CROSSTUBE (205/212/412 LOW FWD)	NTS
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8 7 6 5 4 3 2 1



D212-664-147B
ASSEMBLY DETAIL C

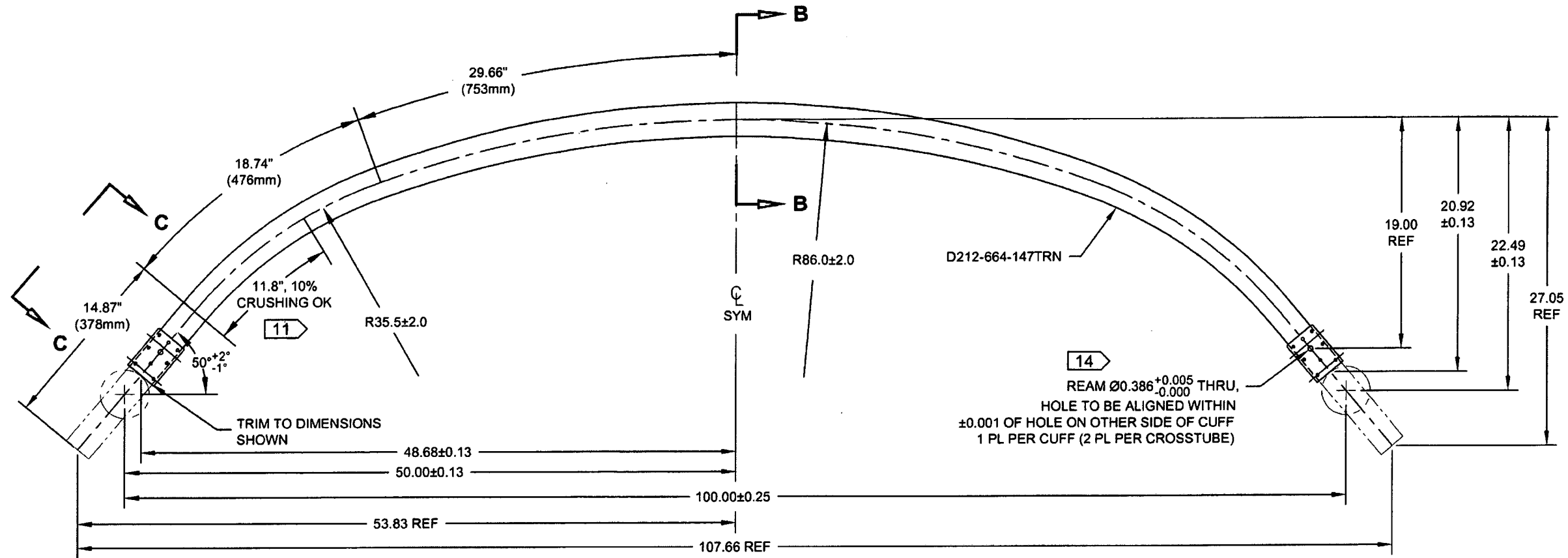


SECTION D-D
SCALE 4X

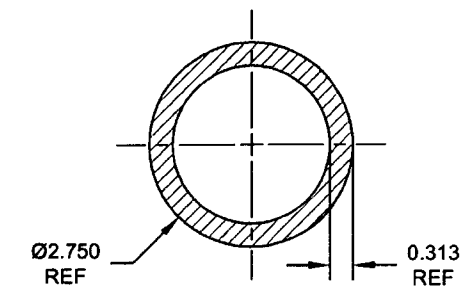
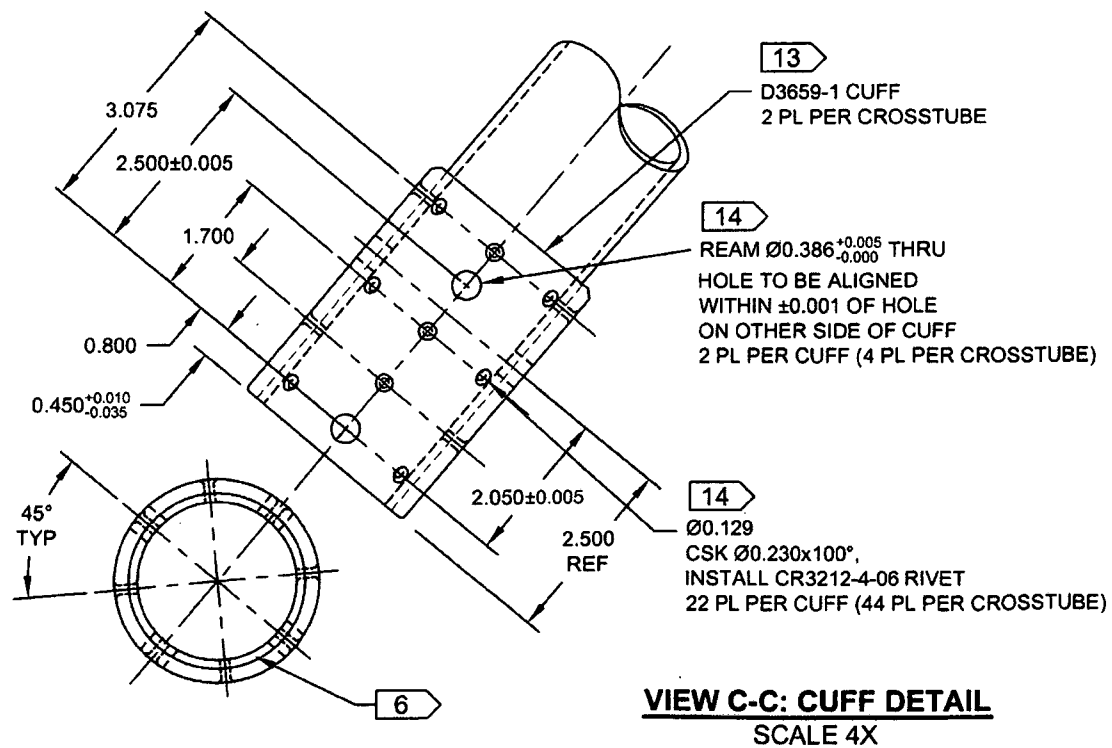
RELEASED
2014-05-26

DESIGN	<i>gp</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>gp</i>		
CHECKED	<i>dw</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D212-664-147	SHEET 3 OF 5
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	CROSSTUBE (205/212/412 LOW FWD)	NTS
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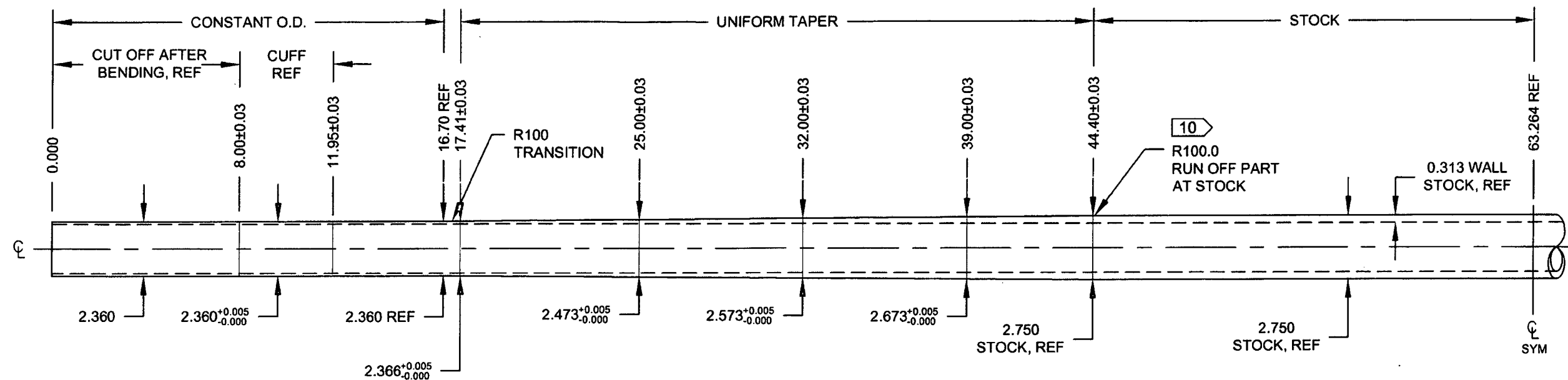
D212-664-507
BENDING AND DRILLING DETAIL



SECTION B-B
SCALE 4X

RELEASED
2014-05-26

DESIGN	99	DART AEROSPACE LTD	
DRAWN	99	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DW	DRAWING NO.	REV. C
MFG. APPR.	ND	D212-664-147	SHEET 4 OF 5
APPROVED	ND	TITLE	SCALE
DE APPR.	ND	CROSSTUBE (205/212/412 LOW FWD)	NTS
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D212-664-147TRN
TURNING DETAIL

RELEASED
 2014-05-26
 JMD

DESIGN	92	DART AEROSPACE LTD	
DRAWN	92	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DW	DRAWING NO.	REV. C
MFG. APPR.	[Signature]	D212-664-147	SHEET 5 OF 5
APPROVED	[Signature]	TITLE	SCALE
DE APPR.	[Signature]	CROSSTUBE (205/212/412 LOW FWD)	NTS
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